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CoE 197S 2s2021 ME8 Activity 2: CHANGING IMAGES

I. MODIFYING AN IMAGE

[1-2]. Start container and test ping:

```
C:\Users\Richard Mendoza>docker run -it ubuntu:16.04 /bin/bash
root@5a632d334e0a:/# ping google.com
bash: ping: command not found
```

3. Update software:

```
root@5a632d334e0a:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [99.8 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [99.8 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [97.4 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:7 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:8 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [984 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:11 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2560 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
Fetched 19.3 MB in 1min 29s (217 kB/s)
Reading package lists... Done
```

4. Install ping command:

```
root@5a632d334e0a:/# apt-get install iputils-ping
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libffi6 libgmp10 libgnutls-openssl12 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0
  libtasn1-6
Suggested packages:
  gnutls-bin
The following NEW packages will be installed:
  iputils-ping libffi6 libgmp10 libgnutls-openssl12 libgnutls30 libhogweed4 libidn11 libnettle6
  libp11-kit0 libtasn1-6
0 upgraded, 10 newly installed, 0 to remove and 0 not upgraded.
Need to get 1307 kB of archives.
After this operation, 3785 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu xenial/main amd64 libgmp10 amd64 2:6.1.0+dfsg-2 [240 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libnettle6 amd64 3.2-1ubuntu0.16.04.2 [93.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libhogweed4 amd64 3.2-1ubuntu0.16.04.2 [136 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libidn11 amd64 1.32-3ubuntu1.2 [46.5 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libffi6 amd64 3.2.1-4 [17.8 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libp11-kit0 amd64 0.23.2-5~ubuntu16.04.2 [107 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libtasn1-6 amd64 4.7-3ubuntu0.16.04.3 [43.5 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls30 amd64 3.4.10-4ubuntu1.9 [548 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls-openssl12 amd64 3.4.10-4ubuntu1.9 [21.9 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/main amd64 iputils-ping amd64 3:20121221-5ubuntu2 [52.7 kB]
Fetched 1307 kB in 16s (78.1 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libgmp10:amd64.
(Reading database ... 4785 files and directories currently installed.)
Preparing to unpack .../libgmp10_2%3a6.1.0+dfsg-2_amd64.deb ...
Unpacking libgmp10:amd64 (2:6.1.0+dfsg-2) ...
...
```

```

Preparing to unpack .../iputils-ping_3:20121221-5ubuntu2_amd64.deb ...
Unpacking iputils-ping (3:20121221-5ubuntu2) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Setting up libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Setting up libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libidn11:amd64 (1.32-3ubuntu1.2) ...
Setting up libffi6:amd64 (3.2.1-4) ...
Setting up libp11-kit0:amd64 (0.23.2-5ubuntu16.04.2) ...
Setting up libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Setting up libgnutls30:amd64 (3.4.10-4ubuntu1.9) ...
Setting up libgnutls-openssl27:amd64 (3.4.10-4ubuntu1.9) ...
Setting up iputils-ping (3:20121221-5ubuntu2) ...
Setcap is not installed, falling back to setuid
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...

```

5. Use ping:

```

root@5a632d334e0a:/# ping google.com
PING google.com (172.217.24.110) 56(84) bytes of data.
64 bytes from 172.217.24.110: icmp_seq=1 ttl=37 time=43.8 ms
64 bytes from 172.217.24.110: icmp_seq=2 ttl=37 time=45.0 ms
64 bytes from 172.217.24.110: icmp_seq=3 ttl=37 time=40.2 ms
64 bytes from 172.217.24.110: icmp_seq=4 ttl=37 time=41.0 ms
64 bytes from 172.217.24.110: icmp_seq=5 ttl=37 time=39.3 ms
64 bytes from 172.217.24.110: icmp_seq=6 ttl=37 time=42.0 ms
64 bytes from 172.217.24.110: icmp_seq=7 ttl=37 time=50.0 ms
^C
--- google.com ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6012ms
rtt min/avg/max/mdev = 39.380/43.113/50.060/3.383 ms
root@5a632d334e0a:/# exit
exit

```

II. COMMITTING CHANGES

[1-2]. Find container and commit new image:

```

C:\Users\Richard Mendoza>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS          NAMES
5a632d334e0a   ubuntu:16.04   "/bin/bash"             4 minutes ago   Exited (0) 12 seconds ago           cool_bassi

C:\Users\Richard Mendoza>docker commit --help

Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]

Create a new image from a container's changes

Options:
  -a, --author string      Author (e.g., "John Hannibal Smith
                           <hannibal@a-team.com>")
  -c, --change list        Apply Dockerfile instruction to the created image
  -m, --message string     Commit message
  -p, --pause              Pause container during commit (default true)

```

// Took me a while to realize the I should be using my DockerHub username.

// commit won't recognize -m

```

C:\Users\Richard Mendoza>docker commit -a 'Richard' -m 'Added ping utility.' 5a6 rmendoza24/ping
"docker commit" requires at least 1 and at most 2 arguments.
See 'docker commit --help'.

Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]

Create a new image from a container's changes

C:\Users\Richard Mendoza>docker commit -a 'Richard' 5a6 rmendoza24/ping
sha256:d80ab5747ef36cd1be1baeea9fb3aeeb9eacb4a02d57dfbc810b4cc23edc6064

C:\Users\Richard Mendoza>docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
rmendoza24/ping  latest   d80ab5747ef3   58 seconds ago  170MB
ubuntu        16.04    b6f507652425   9 months ago   135MB

```

3. Run new image in container:

```
C:\Users\Richard Mendoza>docker run -it --rm rmendoza24/ping /bin/bash
root@fb25530bd616:/# ping google.com
PING google.com (172.217.24.110) 56(84) bytes of data.
64 bytes from 172.217.24.110: icmp_seq=1 ttl=37 time=47.0 ms
64 bytes from 172.217.24.110: icmp_seq=2 ttl=37 time=46.0 ms
64 bytes from 172.217.24.110: icmp_seq=3 ttl=37 time=43.4 ms
^C
--- google.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 43.474/45.496/47.014/1.498 ms
root@fb25530bd616:/# exit
exit
C:\Users\Richard Mendoza>
```